

4.12 Indian Trust Assets

ITAs are defined as *lands, natural resources, money or other assets held by the Federal Government in trust or that are restricted against alienation for Indian tribes and individual Indians* (BIA 303 DM 2.5.C). Examples of ITAs may be underground minerals or energy resources, agricultural lands, fishing/hunting rights, and water rights. An ITA may be located on or off Indian trust lands or reservations. ITAs do not include anything in which a tribe or an individual does not have a legal interest; for example, anything for which a legal remedy for a property interest could not be obtained. ITAs cannot be sold or leased without prior approval by the DOI unless otherwise provided by Federal law. The ROI for the ITA analysis consists of the entirety of the Navajo Nation and the Hopi tribal trust lands, although it is recognized that an ITA (i.e., water resources) can be located off tribal trust lands.

4.12.1 Regulatory Compliance Framework

The U.S. has a trust responsibility to protect and maintain rights reserved by or granted to Indian tribes by treaty, statutes, and executive orders. As the Trustee, it is part of the Federal Government's fiduciary responsibility to ensure that a tribe receives fair compensation when ITAs are removed from the trust, as well as the responsibility to ensure that the use of an asset is in the best interest of the trustee. Both of these responsibilities are intended to ensure the preservation of ITA value for the tribes. It is important to note that the Navajo Nation, as a tribal sovereign with a right to self-determination and economic independence, has decided to develop its own trust resources, through the approval of NTEC within Navajo Nation legislation. The Navajo Nation is thus the resource owner and seller. The Federal Government's trust obligation, in accordance with Federal policy, is to assist Indian Tribes like the Navajo Nation in the development of energy resources and further the goal of Indian self-determination (see the Indian Tribal Energy Development and Self-Determination Act of 2005 [25 USC §3501-04]).

This trust relationship between Tribes and individual Indians applies to all agencies of the Federal Government, including OSMRE and BIA, and creates a responsibility for agencies to take all reasonably necessary actions to protect ITAs. The Secretary of the Interior is charged with acting as the trustee for ITAs and administers Federal trust management per the policies set forth in the American Indian Trust Fund Management Reform Act of 1994 (Public Law 103-412, October 25, 1994, 108 Stat. 4239).

While all DOI agencies abide by the Secretary's trust policies, the BIA is the primary agency that administers trust actions and oversees ITAs. BIA's Office of Trust Services is tasked with overseeing all headquarter activities associated with management and protection of trust and restricted lands, natural resources, and real estate services. All activities must be performed in a way that considers the economy, environment, culture, and best interest of the trustee. When a tribe or individual Indian approaches the BIA with a proposal to utilize an ITA, the BIA reviews the proposal to ensure appropriate management, development, and protection of that asset. All activities must be performed in a way that considers the economy, environment, and culture.

OSMRE administers specific trust management policies for mining projects occurring on Indian trust lands. These policies require that any ITAs that may be directly or indirectly affected by surface coal mining or reclamation operations are identified, conserved, and protected. It is OSMRE's policy to ensure that any direct or indirect anticipated impacts to ITAs are considered in associated planning, decision, or operational documents.

4.12.2 Affected Environment

4.12.2.1 Minerals

The Indian Mineral Leasing Act of 1938 and the Indian Mineral Development Act of 1982 are the principal statutes governing the leasing of Indian coal assets for the benefit of a tribe. To obtain an American Indian Coal Lease, direct negotiation between the interested party and tribal authorities is necessary,

where the Secretary of the Interior must review and approve the lease. As follows, 25 USC 396(a) describes the right by which coal reserves that are ITAs are leased, as well as the use of unallotted lands for mining purposes:

On or after May 11, 1938, unallotted lands within any Indian reservation or lands owned by any tribe, group, or band of Indians under Federal jurisdiction, except those specifically excepted from the provisions of Sections 396a and 396g of this title, may, with the approval of the Secretary of the Interior, be leased for mining purposes, by authority of the tribal council or other authorized spokesmen for such Indians, for terms not to exceed ten years and as long thereafter as minerals are produced in paying quantities.

The Navajo Mine Lease Area is located within the Navajo Nation's boundaries. The Navajo Nation holds both surface and mineral rights for the land occupied by the Navajo Mine Lease Area. All of the coal produced from the Navajo Mine and used at the FCPP is considered an ITA. The coal is produced subject to a lease between the Navajo Mine and the Navajo Nation. The original lease (Lease No. 14-20-603-2505) was approved by the Navajo Nation Tribal Council, executed by the Navajo Nation, and approved by the Secretary of the Interior in 1957. After numerous amendments to the lease, the Navajo Mine Lease Area spans a total of 32,619 acres. NTEC holds a SMCRA permit through OSMRE (OSMRE Permit No. NM-0003F) to mine the leased area.

The proposed Pinabete SMCRA Permit Area is also located on trust lands where the Navajo Nation holds both surface and mineral rights. The area would include 5,569 acres and would be composed of parts of the current Navajo Mine SMCRA Permit Area, as well as portions of Area IV North and Area IV South. The land would be used for mining, to haul coal, and to otherwise enable the Navajo Mine's coal sale obligations through 2041.

4.12.2.2 Land

The Navajo Nation has over 17 million acres of trust land and the Hopi Reservation has approximately 1.5 million acres. Infrastructure for the existing FCPP and Navajo Mine SMCRA Permit Area also occupies Navajo Nation trust land. The Navajo Mine holds a lease with the Navajo Nation for the approximately 32,619-acre parcel occupied by the mine lease area; while APS holds a lease with the Navajo Nation for the approximately 2,460-acre parcel occupied by the power plant and ancillary facilities. Infrastructure for the FCPP on Navajo Nation trust land consists of coal processing facilities, steam generators, turbines, water pumping and distribution equipment, pollution control equipment, storage tanks for required chemicals, potable and wastewater treatment facilities, office buildings, switchyards, and maintenance facilities. Infrastructure and associated activities related to the Navajo Mine on Navajo Nation trust land include surface coal mining, reclamation activities, access roads, haul roads, a 6.3-mile transmission line (for a total of approximately 50 miles of transmission lines within the lease area), a 15-mile railroad, and coal handling facilities. Other ROWs and easements exist on Navajo Nation and Hopi trust lands for four transmission lines, all of which originate at the FCPP. The Moenkopi transmission line traverses allotted trust lands that are held in trust by the U.S. Federal Government on behalf of individual Navajo tribal members. Considering that these individual tribal members are not signatories to Lease Amendment No. 3, BIA's Record of Decision will not address the portions of the Moenkopi transmission line that passes through allotted trust lands. Additionally, the West Mesa transmission line crosses through Navajo Nation tribal trust lands up until the Reservation boundary and then passes through private and allotted trust lands held in trust by the U.S. Federal Government for individual Navajo tribal members.

4.12.2.3 Water

The 1908 Supreme Court decision in *Winters v. United States*, known as the Winters Doctrine, decreed that the establishment of an Indian reservation also required that a sufficient amount of water be reserved for the tribe's present and future use. The Winters Doctrine allows for a legal process as determined by a

judge or arbitrator for settling water rights between the U.S. and Indian Tribes when those rights are not clearly defined. According to the Winters Doctrine, nonuse of reserved water will not result in forfeiture of the reserved water rights. The Navajo Nation's and Hopi Tribe's surface and groundwater rights, whether quantified or unquantified, are ITAs. The Navajo Nation's water rights in the San Juan River Basin in New Mexico have been quantified pursuant to a settlement agreement between the Nation, the United States, and the State of New Mexico executed in December 2010. The District Court for the San Juan Adjudication in New Mexico entered the Supplemental Partial Final and Partial Final Decree on November 1, 2013, quantifying the Navajo Nation's allocation of the San Juan River. These water rights are based on historic use and reserved water rights. The Partial Final Decree has since been appealed to the New Mexico Court of Appeals and no decision has yet been rendered. In addition, the 1984 Navajo Water Code declares the purpose of and asserts authority over all actions that affect the use of water on Navajo Nation tribal trust lands as follows:

In order to provide for a permanent homeland for the Navajo People; to protect the health, the welfare and the economic security of the citizens of the Navajo Nation; to develop, manage, and preserve the water resources of the Navajo Nation; to secure a just and equitable distribution of the use of water within the Navajo Nation through a uniform and coherent system of regulation; and to provide for the exercise of the inherent sovereign powers of self-government by the Navajo Nation, the Navajo Nation hereby asserts its sovereign authority over all actions taken within the territorial jurisdiction of the Navajo Nation which affect the use of water within the Navajo Nation
(Navajo Nation Council 1984).

BBNMC holds a water right for the use of surface and groundwater of the San Juan Basin (New Mexico Office of the State Engineer Permit No. 2838). The mine uses this right to supply water for the FCPP and the Navajo Mine. All of the water for the FCPP and Navajo Mine is obtained from the San Juan River; the water is pumped into Morgan Lake and then pumped from the lake for use in mining and power plant operations. In addition, the FCPP has an agreement with the Jicarilla Apache Water Authority for supplemental water use, as needed. Water is used at the FCPP for a variety of purposes, including SO₂ scrubbing, steam condensers, cooling water, dust control, washwater for vehicles and facilities, and domestic purposes. Water used for Navajo Mine operations is for reclamation purposes and dust suppression. Water for the proposed Pinabete SMCRA Permit Area would also be obtained from the San Juan River via Morgan Lake, and would be used in mining operations, including dust suppression and reclamation purposes. The proposed Project does not utilize any water from the Hopi Tribe.

Future water development within the basin is anticipated to occur and has the potential to affect species dependent on the flow regime of the San Juan River. Most of these future water depletions were accounted for in the consultation for Navajo Dam Operations (USFWS 2006), and are therefore considered in meeting the San Juan River Flow Recommendations. There are irrigation ditches and canals below Navajo Dam that could entrain pikeminnow and razorback sucker: Citizens, Hammond, Fruitland, San Juan Generating Station, Jewett Ditch, and Hogback. Increased urban and suburban use of water, including municipal and private uses will increase demands for water. Further use of surface water from the San Juan River will reduce river flow and decrease available habitat for the razorback sucker and pikeminnow and may affect habitat for riparian dependent species such as southwestern willow flycatcher and yellow-billed cuckoo. Livestock grazing may adversely impact these species by removal of water for drinking and the reduction in soil water holding capacity in the floodplain, and resulting reduction in base flows.

4.12.2.4 Cultural Resources

Indian cultural sites, cultural items, and even Native American human remains may be considered ITAs if they are associated with land status, a treaty, or some other statute. Cultural resources, including sacred sites and those protected by NAGPRA are discussed in Section 4.4 (Cultural Resources).

4.12.2.5 *Grazing, Hunting, and Gathering Resources*

The BIA Navajo Region established CUAs throughout the Navajo Reservation that grant grazing privileges for individual Navajo tribal members. A CUA is not a title of ownership, but rather defines an individual's personal area for grazing use. The Navajo Mine Lease Area intersects 27 CUAs, and the proposed Pinabete SMCRA Permit Area would intersect 5 CUAs. The Navajo Nation and Hopi Tribe have the right to continue hunting, gathering, grazing livestock, and their traditional uses on the Hopi and Navajo Reservations. Hunting and gathering, and grazing are also discussed in Section 4.4 (Cultural Resources) and Section 4.9 (Land Use).

4.12.2.6 *Paleontological Resources*

Per 59 Indian Affairs Manual 7 (April 2012), paleontological resources are considered ITAs and should be protected and managed accordingly. BIA classifies "any remains, impressions or traces of organism preserved in or on the earth's crust" as an ITA. However, human remains are considered "cultural items" and not treated as an ITA. Human remains and related burial relics are regulated under NAGPRA of 1990 (25 USC 3001). The intention of BIA's policy is to ensure that paleontological resources, which can be highly valued, are not poached or trafficked, which would devalue the tribe or individual of an asset.

As discussed in Section 4.3, the San Juan Basin contains a rich and diverse paleontological record. As of 2007, the New Mexico Museum of Natural History and Science database indicated that more than 10,000 fossil specimens had been collected from San Juan County. However, only a small number are from Navajo Nation tribal trust lands (DOI and BIA 2007).

4.12.3 Changes to Indian Trust Assets Affected Environment Post-2014

Two completed Federal Actions have been incorporated into the baseline for this analysis: (1) the EPA has made its ruling with respect to BART to control air emissions; and (2) OSMRE has approved the SMCRA permit transfer from BNCC to NTEC (Section 2.4). These completed Federal Actions are considered part of the environmental baseline to which the impacts of continuing operations and the Proposed Actions are compared in the following section. Neither of these completed Federal Actions would change the affected environment for ITAs.

4.12.4 Environmental Consequences

This section discusses the ITAs that could be affected under the alternatives described in Section 3.2. ITAs with monetary and intrinsic values that could be affected by the alternatives include minerals, land, water, cultural resources, and grazing, hunting, and gathering resources. Impacts are described in comparison to the baseline condition.

ITA impact assessment is based on changes in asset values attributable to the Proposed Action and alternatives. The value of ITAs to the tribe is largely based on their quantity and quality; any change in quality or quantity without fair market compensation represents a potential change in value to the tribe. Value is also based on the ability to access the ITAs. The analysis in this section, thus, assesses potential impacts to the value of ITAs by analyzing whether the access to or quantity/quality of ITAs would be modified by the alternatives; as such, this section often draws on impact analyses completed in other resource sections. Assessment of the magnitude of an impact is described where possible. Assessment of the significance of impacts is based on the conclusions from other resource sections.

4.12.4.1 *Alternative A – Proposed Action*

Navajo Mine

Minerals

Coal is the dominant mineral resource in the Pinabete SMCRA Permit Area and the only mineral trust asset that would be extracted during the mining operations. The Pinabete SMCRA Permit Area would be mined in the same manner described for the current Navajo Mine SMCRA Permit Area operations, using surface coal mining methods adapted for multiple coal seam mining.

The annual total tonnage that would be mined from the Pinabete SMCRA Permit Area would depend on the demand for coal and availability of mining equipment. Table 3-4 presents the expected coal extraction from the Pinabete SMCRA Permit Area from 2017 to 2041. Over the 25-year lease period, 134 million tons of coal would be extracted and used at the FCPP (an average of 5.4 million tons per year over the entire permit period). If NTEC's existing SMCRA permit is renewed, the expected amount of coal that would be extracted from the existing Navajo Mine SMCRA Permit Area, not including the proposed Pinabete SMCRA Permit Area, from 2013 to 2024 is 91.8 million tons of coal (an average of 7.7 million tons per year). The total amount of coal that would be extracted under Alternative A, including coal from the new Pinabete SMCRA Permit Area and the existing Navajo Mine SMCRA Permit Area, is 226 million tons over the 29-year period from 2013 to 2041 (an average of 7.8 million tons per year). The heaviest period of extraction would occur in the years 2022 through 2026 (an average of 9.2 million tons per year).

To identify if the Navajo Nation is receiving fair compensation for its coal, this analysis identifies the probable market value of Navajo Mine coal based on prices received elsewhere. As of April 12, 2013, prices of coal (delivered to market) ranged from \$10.06 per ton (for coal from the Powder River Basin) to \$58.10 per ton for coal from the Central Appalachian region (U.S. Energy Information Administration 2012). The wide range in price is partly due to extraction location (and associated costs to transport the coal to end users) and the variation in the amount of energy inherent in a unit of coal, as measured by Btu. Coal from the Powder River Basin (southeastern Montana/northeastern Wyoming) has an average rating of 8,600 BTU per pound while coal from the Central Appalachian region has an average rating of 12,500 BTU per pound (John T. Boyd Company 2011, McIlmoil and Hansen 2010). Coal from the Navajo Mine has a relatively low average rating of 9,500 BTU per pound (Brown 2006), which indicates that its market value may be at the mid- to low-end of the national price range.

In 2011, the average price of coal produced in New Mexico was \$34.22 per ton (U.S. Energy Information Administration 2012). This amount is the price of coal produced and delivered to market. The value of coal in the ground is much lower because of the substantial costs associated with extraction. Assuming a similar BTU rating for average New Mexico coal and the Navajo Mine coal, this analysis estimates a market value of \$34.22 per ton for coal from the Navajo Mine. Table 4.12-1 shows that coal valued at approximately \$4.6 billion (based on the 2011 New Mexico price) would be extracted during the permit period; however, the future price of coal produced at the Navajo Mine may change as a result of the transfer of ownership of the mine to the NTEC.

A small percentage of the coal resources (approximately 8 percent) would be unrecoverable 'wedges' and 'ribs' at the top and bottom of the coal seams. This unrecoverable coal is not included in Table 4.12-1, so an additional 10.7 million (8 percent of 134 million) valued at \$458 million (assuming \$34.22 per ton) would be lost as wedges and ribs. As compensation for the coal, it is estimated that the tribe would receive \$40.2 million per year royalties (Brown 2006). At \$40.2 million per year, over 29 years, the tribe would be compensated a total of \$1.2 billion. Thus, the tribe would be expected to receive payments valued at approximately 15.1 percent of the gross value of the coal produced, or 13.7 percent of the gross value of all coal lost to future use (produced coal plus unrecoverable coal). Following ownership of the mine transfer to the NTEC, the royalty payments would continue under the current payment schedule (OSMRE 2013).

Table 4.12-1 Coal Mined and Value of Coal Over the Permit Period

Permit Term	Total Coal Mined	Assumed Price Per Ton*	Value of Coal Over the Permit Period
1	28,995,000	\$34.22	\$992,208,000
2	29,290,000	\$34.22	\$1,002,303,000
3	29,290,000	\$34.22	\$1,002,303,000
4	29,290,000	\$34.22	\$1,002,303,000
5	17,574,000	\$34.22	\$601,382,000
Total	134,439,000	\$34.22	\$4,600,502,580

Note:

*Assumed price per ton based on 2011 average New Mexico price.

The royalty rate paid to Federal agencies leasing mineral rights provides a point of comparison to whether the tribe is being fairly compensated. The royalty rate for Federal coal mined by surface methods, established by law, is 12.5 percent of the gross value of the coal produced. However, Federal agencies may also have other income from coal leasing. For example, BLM receives three types of revenues from coal leasing: a bonus paid at the time it issues a lease, a rental fee of \$3 per acre (or fraction thereof), and production royalties of 12.5 percent of the gross value of the coal produced (BLM 2012a). Unless the bonus paid at time of leasing is quite large, it appears that the royalties received by the tribe (at 13.7 to 15.1 percent) would exceed those paid to the BLM for coal rights. Although not determinable with certainty based on the Federal royalty rate, it appears that the tribe would be fairly compensated for its mineral resources.

Land

Under the Proposed Action, all mining activity would be on acreage already leased for mining purposes, with no change in the lease or ownership status of trust lands.

Proposed surface mining of overburden (material that lies above the target formation) and subsurface coal resources would disturb approximately 4,104 acres of rocks and soil and modify land topography. Most soils in the permit area do not currently meet the SMCRA definition of topsoil; therefore, top-dressing substitute material from within the permit area would be used during reclamation (as described in Section 4.3, Earth Resources). As required by the SMCRA permit, following reclamation, the site would support vegetative cover, which would decrease soil erosion. Short-term uses of the land would be impacted by coal mining operation in the Pinabete SMCRA Permit Area; however, long-term uses would be expected to return to conditions that are equivalent to or better than the baseline.

Compared to baseline conditions, the increase in soil quality after reclamation may enhance the suitability of these lands for other future uses, such as grazing or other agricultural purposes. Thus, under Alternative A, no adverse impacts to the value of trust land would be expected at the Pinabete SMCRA Permit Area.

During Project operations, potential adverse impacts to the value of adjacent lands held in trust could occur, due to any Project-induced changes in the area's aesthetics, air quality, or groundwater quality. As presented in Section 4.9, Land Use, land uses adjacent to the ROI are primarily dispersed housing, grazing, agriculture (including dispersed family farm plots and commercial farming), mining, oil and gas extraction, electricity production, and recreation with a variety of roads (from paved to dirt) traversing the land (Figure 1-1, General Project Location Map). Of these uses, the value of housing and recreational land uses may be most sensitive to the Project. However, due to the existing industrial nature of the area, Project impacts on adjacent land value, even housing or recreation, would be limited (see Section 4.10, Socioeconomics, for further discussion).

Water

Implementation of Alternative A would result in the loss of coal seam aquifers in the Fruitland Formation and a reduction in groundwater quantity as a result of mining operations (see Section 4.5, Water Resources/Hydrology). However, the impacts to the Fruitland Formation and groundwater quantity would be limited as mining operations would not affect the existing or future use of water from the Fruitland Formation, and current groundwater quality is poor due to high salinity. No major adverse impacts on groundwater resources held in trust would occur.

BBNMC would retain the allocated water right for FCPP and Navajo Mine operations after NTEC takes ownership of Navajo Mine, and the water right would not become the property of the Navajo Nation or NTEC. This water right is provided under Permit 2838 and entitles NTEC to divert 39,000 acre-feet per year from the San Juan River for consumptive and 51,600 acre-feet per year for diversion. Navajo Mine's usage is approximately 1,000 acre-feet per year. FCPP usage is approximately 25,000 acre-feet per year. The mine and FCPP will continue to be supplied with water from Permit 2838. The sale of NMCC, LLC's equity to NTEC will not change the source or amount of water available to the mine. According to BNCC, prior to sale of NMCC, LLC's equity to NTEC, BNCC, the current owner of Permit 2838, will transfer its ownership interest in Permit 2838 to BBNMC and BBNMC will honor all existing contractual commitments for water deliveries (BNCC/NTEC/APS 2013).

Compared to the baseline conditions, impacts to surface water quality would be limited due to erosion control measures and adherence to SMCRA regulations. OSMRE is charged with enforcing, and if necessary issuing fines, for impoundments not meeting NNEPA water quality standards. Although TDS and aluminum levels fluctuate with changes in precipitation patterns, reclamation activities would reduce overall TDS levels and aluminum loading from current levels, which would result in beneficial impacts to surface water resources held in trust (see Section 4.5). Project activities, therefore, are not expected to adversely affect the surface water quality of the San Juan River and consequently not result in an adverse impact to this ITA.

As identified in Section 4.5, direct surface water quantity impacts related to peak flows and runoff volumes would be long term, yet negligible in severity. Changes in ephemeral flow may occur if some of the sediment and drainage control ponds are converted to permanent replacement livestock water ponds at the request of the Navajo Nation or the local water user. These impoundments would only be considered permanent if water quality conditions meet NNEPA standards. The impact of the mine on geometry, morphology, or location of the natural stream patterns would be negligible. Stock ponds located adjacent to active mining operations would not experience major water quality or quantity impacts with respect to livestock use. No major impacts on surface water resources held in trust would occur.

Cultural Resources

Due to additional ground disturbances from the development of the permitted areas and the construction of new roads, implementation of Alternative A could impact the integrity of cultural resources, historic resources, and/or TCPs. Under Section 106 of the NHPA, OSMRE is consulting with THPO and SHPO to identify mitigation measures to reduce potential impacts (see Section 4.4, Cultural Resources). Since potential impacts would be mitigated, any unavoidable impacts to ITAs would be considered minor.

Grazing, Hunting, and Gathering Resources

Under Alternative A, mining and construction activities would occur within the Pinabete SMCRA Permit Area and the Navajo Mine SMCRA Permit Area (permit areas), requiring public access restrictions for safety purposes for the duration of mining operations and reclamation. Additional access restrictions within five CUAs would occur due to the realignment of Burnham Road. Restricted access would reduce the availability and value to the Navajo Nation of grazing and hunting and gathering resources present within the proposed restricted access areas. NTEC would compensate for the reduced access to designated grazing areas by negotiating with the CUA holder, with the Navajo Nation as a witness to the

negotiation. The land would be reclaimed to conditions suitable for grazing after the Project. No compensation would be provided for restricted access to hunting and gathering resources. However, abundant other hunting and gathering trust resources are nearby, so the loss of access to a relatively small area to hunting and gathering would result in negligible impacts.

Paleontological Resources

The development of Pinabete SMCRA Permit Areas would likely have an adverse impact on paleontological resources. However, an inadvertent discoveries plan would be required in the proposed Pinabete SMCRA permit. The inadvertent discoveries plan would seek to minimize the potential damage or destruction of paleontological resources by putting in place protocols for pre-surveying and monitoring activities, procedures for evaluating the significance of a discovery, and stipulate the level of training that personnel must have in order to conduct identification, collection, and curation activities. While ground-disturbing activities associated with the Project may damage or destroy paleontological resources, these protocols would ensure that the Navajo Nation is not deprived of the opportunity to realize benefits from these ITAs. Therefore, minor impacts are expected to occur as result of the development of the Pinabete SMCRA Permit Area.

Four Corners Power Plant

Minerals

Currently, no mineral extraction is conducted at the FCPP, and none is planned; therefore, approval of Amendment #3 would not impact mineral trust assets.

Land

Under Alternative A, APS would construct five additional DFADAs within the FCPP's existing boundaries (the size of the leased acreage and the footprint of the FCPP facilities would not change). As discussed in Section 4.5, Water Resources/Hydrology, the new DFADA cells would be lined with synthetic liners to minimize infiltration. The cells would be surrounded by a berm whose size is designed to capture a 100 year, 24 hour storm event without runoff. The stormwater that lands on the DFADA flows to an adjacent lined depression (stormwater pond), which is used for dust control or pumped to the Lined Decant Water Pond. In this way, stormwater that falls on the DFADA cells, and associated runoff, is retained. For Stormwater that falls on surrounding areas, outside the DFADA cells, would be channeled around the cells to the Chaco River by a system of berms so that the unaffected runoff does not come in with the DFADA area. DFADA construction and use is not expected to result in any adverse impacts to surrounding land areas.

Placement of CCR would permanently reduce soil productivity and prevent vegetation growth on this portion of the lease area (see Section 4.3, Earth Resources, for more information). The loss of soil productivity would permanently diminish the ability of the tribe to use these trust lands for productive purposes following the decommissioning and dismantlement of the FCPP at the end of the lease period. However, under the FCPP lease between APS and the Navajo Nation, the tribe is compensated for use of lands. Therefore, the potential loss of productivity on the portion of the FCPP Lease Area occupied by the DFADAs, following closure of the FCPP in 2041, is not considered a major impact to the value of land ITAs.

Water

Under Alternative A, the FCPP's operation would not affect groundwater quantity. The potential does exist for continued operation and expansion of the DFADAs to adversely affect groundwater quality and surface water quality in Chaco River through ongoing seepage, but this potential would be reduced through the operation of intercept trenches (see Section 4.5, Water Hydrology/Resources). No major impacts to groundwater trust assets would occur.

In terms of surface water resources, the water used at the FCPP is cycled from Morgan Lake through the power plant condenser for cooling and then discharged back into the lake. Under Alternative A, the FCPP would continue to operate in accordance with the existing NPDES permit and the SWPPP, in addition to using berms around the proposed DFADAs. Operation of selective catalytic reduction devices on Units 4 and 5 would require the use of ammonia. Any potential spills of ammonia during transport could drain to nearby surface water features. In the unlikely event of a spill, a SPCC Plan would be implemented to prevent and contain any adverse impacts of the spilled material to the surrounding environment. As described in Section 4.5, Water Resources/Hydrology, it is expected that surface water quality would not be affected by the continued operation of Units 4 and 5 at the FCPP and the DFADAs.

Construction of the new DFADAs would result in the permanent filling of three ephemeral drainages that discharge into the Chaco River. Based on a review of the delineation of wetlands and waters of the U.S. conducted at the FCPP and the Project plans, removal of nonjurisdictional segments of these drainages would alter historic storm flows and hydrology in the Pinabete SMCRA Permit Area. However, the application of mitigation measures and BMPs would prevent these impacts from adversely affecting surface water quantity or quality (see Section 4.5, Surface Water Quality for more information).

In addition to direct impacts to surface water quality from spills, operation of the power plant would also result in the deposition of mercury, selenium, and other materials into the San Juan River and adjacent waterbodies through atmospheric deposition from FCPP emissions. As discussed in Section 4.5, this deposition area would occur on almost entirely Navajo lands; however, based on the modeling that was conducted, the amount of minerals deposited are considered limited and would not result in a major impact to surface water quality (AECOM 2013c).

BBNMC currently holds the water rights for this water use (New Mexico Office of State Engineer Permit No. 2838). The final disposition of the water rights is still pending and will be resolved between BBNMC and NTEC. No changes to water rights would occur under Alternative A; therefore, the Navajo Mine would maintain the right to draw as much water as the rights allow for the Project life.

Cultural Resources

Due to additional ground disturbances from the construction of the new DFADAs, implementation of Alternative A could impact the integrity of cultural resources, historical resources, and/or TCPs. As potential impacts are identified, OSM will consult with THPO and SHPO and mitigation measures will be identified. Since potential impacts will be mitigated, it is expected that any impacts on cultural resource ITAs would be minor (see Section 4.4, Cultural Resources, for additional information).

Grazing, Hunting, and Gathering Resources

No major impacts to grazing, hunting, and gathering resources would occur as a result of Alternative A. The quantity and quality of, and access to, grazing, hunting, and gathering resources and other natural resources would not change from baseline conditions under Alternative A. At the end of the lease, current access restrictions would be removed and the land reclaimed. As abundant other hunting and gathering trust resources are nearby in the area, access restrictions under Alternative A would be expected to result in negligible impacts.

Paleontological Resources

The development of the DFADAs could destroy or damage paleontological resources if encountered during ground-disturbing activities. However, as discussed in Section 4.3.4.1, the potential to encounter intact paleontological resources in these areas is considered low. An inadvertent discoveries plan would be implemented for development of the DFADAs. The inadvertent discoveries plan will seek to minimize the potential damage or destruction of paleontological resources by putting in place protocols for pre-surveying and monitoring activities, procedures for evaluating the significance of a discovery, and stipulate the level of training that personnel must have in order to conduct identification, collection, and

curation activities. While ground-disturbing activities associated with the Project may damage or destroy paleontological resources, these protocols would ensure that the Navajo Nation is not deprived of the opportunity to realize benefits from these ITAs. Therefore, minor impacts are expected to occur as result of the development of the DFADAs.

Transmission Lines

Minerals

Currently, no mineral extraction is conducted along the transmission lines, and none is planned; therefore, the renewal of the current ROWs associated with the transmission lines would not impact mineral trust assets.

Land

The renewal of the current ROWs associated with the transmission lines would not result in any changes to use of the land associated with the four existing transmission lines. Baseline conditions and existing land uses would continue. At the end of the lease, the transmission lines would either be decommissioned and dismantled or left in place.

Water

Under Alternative A, potential impacts on groundwater would be considered negligible as maintenance activities and normal operation would not involve any ground-disturbing activities.

As described in Section 4.5, Water Resources/Hydrology, the existing transmission lines and associated ROWs traverse numerous surface water features. Baseline conditions and current maintenance practices would continue. General maintenance activities to transmission lines and associated ROWs could indirectly affect surface water resources by increased stormwater runoff from the site carrying sediment and contamination loads into surface water, and by contamination from construction equipment and activities infiltrating area surface waters. Site clearing and grading activities could result in soil exposure, rutting, and compacting, which have the potential to increase water yields from the site, concentrate and channelize sheetflow, increase erosion rates, and increase sediment delivery to nearby water bodies. To protect the water quality of area surface waters during construction and maintenance activities, any and all of the BMPs required by the appropriate authorities will be implemented and maintained. Such required environmental protection measures are expected to limit any adverse impacts to surface water ITAs to minor impacts. No additional mitigation measures are recommended.

Cultural Resources

Due to continued maintenance in ROW areas, implementation of Alternative A could impact the integrity of cultural resources, historical resources, and/or TCPs. As potential impacts are identified, OSM will consult with THPO and SHPO and mitigation measures will be identified. Since potential impacts will be mitigated, it is expected that any impacts to cultural resource ITAs would be minor (see Section 4.4, Cultural Resources, for additional information).

Grazing, Hunting and Gathering Resources

Few impacts to grazing, hunting, and gathering resources would be associated with the transmission lines under Alternative A. The quantity and quality of the grazing, hunting, and gathering resources would not change under Alternative A, and access to current grazing, hunting, and gathering lands and grazing areas would remain similar to baseline conditions.

Paleontological Resources

While vegetation management activities would occur within the ROW, no new ground-disturbing activities are proposed. This would significantly reduce the potential to damage or destroy an intact paleontological

resource; therefore, the renewal of the ROW for the transmission lines would not impact paleontological resources.

4.12.4.2 *Alternative B – Navajo Mine Extension Project Mine Plan*

Navajo Mine

Minerals

Under Alternative B, Area IV South would be mined in the same manner described for the current Navajo Mine operations, using surface coal mining methods adapted for multiple coal seam mining. The same amount of coal would be expected to be extracted from Area IV South as detailed under Alternative A. All associated impacts to mineral trust assets would be the same as described in Section 4.12.4.1.

Land

Under Alternative B, the mining activity would be located on acreage within the Navajo Mine Lease Area, with no change in the lease or ownership status of trust lands.

Surface mining operations and new construction would disturb approximately 4,999 acres of rocks and soil. This disturbance area is larger than that under Alternative A (4,104 acres). Impacts to land trust assets would be similar to those described in Section 4.12.4.1, despite the larger footprint of the mining operations.

Compared to baseline conditions, the increased soil quality after reclamation may enhance the suitability of these lands for other uses, such as grazing or wildlife habitat. Thus, under Alternative B, no adverse impacts to the value of trust land would occur at the Project site.

Water

Under Alternative B, impacts to groundwater, surface water, and channel morphology would be as described for Alternative A.

Based on the delineation of waters of the U.S. conducted in April 2012, approximately 33 acres of waters of the U.S. would be impacted under Alternative B. If a USACE permit is granted, it would require mitigation to offset impacts to the waters of the U.S., such as payment to an established mitigation bank or restoration of an agreed-upon acreage. As a result of implementation of mitigation, no major impacts would occur to water resources held as ITAs.

Cultural Resources

Due to additional ground disturbances in Area IV South and the construction of the new roads and transmission lines, Alternative B could impact the integrity of cultural resources, historical resources, and/or TCPs. As potential impacts are identified, OSM will consult with THPO and SHPO and mitigation measures will be identified. Since potential impacts will be mitigated, it is expected that any impacts to cultural resource ITAs would be minor (see Section 4.4, Cultural Resources, for additional information).

Grazing, Hunting, and Gathering Resources

Under Alternative B, the mining operations would be comparable to those described under Alternative A, but would occur in a slightly different part of the Navajo Mine Lease Area and would encompass a slightly larger footprint.

Mining and construction activities would occur within Pinabete Arroyo and require diversion of flows from the arroyo around mining activities. Diversion of Pinabete Arroyo may indirectly impact wildlife, which could impact hunting resources. The effect of displaced wildlife on hunting resources would be uncompensated; however, an abundance of other hunting areas are held in trust, so this displacement would result in negligible impacts.

Paleontological Resources

Under Alternative B, impacts to paleontological resources would be as described for Alternative A.

Four Corners Power Plant

Under Alternative B, the BIA would approve the lease amendment for the FCPP, and the FCPP would operate as described under Alternative A. All potential impacts to minerals, land, water, cultural resources, paleontological resources, and grazing, hunting, and gathering trust assets would be the same as described in Section 4.12.4.1.

Transmission Lines

Under Alternative B, existing transmission line ROW renewal would be approved as described under Alternative A. All potential impacts to minerals, land, water, cultural resources, paleontological resources, and grazing, hunting, and gathering trust assets would be the same as described in Section 4.12.4.1.

4.12.4.3 *Alternative C – Alternative Pinabete Mine Plan*

Navajo Mine

Minerals

Under Alternative C, Area IV North and Area IV South would be mined in the same manner described for the current Navajo Mine operations, using surface coal mining methods adapted for multiple coal seam mining. The same amount of coal would be extracted from Area IV North and Area IV South as detailed under Alternative A. All associated impacts to the mineral trust assets would be the same as described in Section 4.12.4.1.

Land

Under Alternative C, the mining activity would be located on acreage within the Navajo Mine Lease Area, with no change in the lease or ownership status of trust lands. Surface mining operations and new construction would disturb approximately 6,492 acres of rocks and soil, and modify land topography. This disturbance area is larger than under Alternative A (4,104 acres). Impacts to land trust assets would be similar to those described for the Proposed Action, despite the larger footprint of the mining operations.

Water

Under Alternative C, impacts to groundwater, surface water, and channel morphology would be as described for Alternative A.

Based on the delineation of waters of the U.S. conducted in April 2012, approximately 6.6 acres of waters of the U.S. would be impacted. If a USACE permit is granted, it would require mitigation to offset impacts to the waters of the U.S., such as payment to an established mitigation bank or restoration of an agreed-upon acreage. As a result of implementation of mitigation measures, no major impacts would occur to water resources held as ITAs (see Section 4.5, Water Resources/Hydrology, for additional information).

Cultural Resources

Due to additional ground disturbances from the development of the lease areas and the construction of the new roads and transmission lines, Alternative C could impact the integrity of cultural resources, historic resources, and/or TCPs. As potential impacts are identified, OSM will consult with THPO and SHPO and mitigation measures will be identified. Since potential impacts will be mitigated, it is expected that any impacts to cultural resource ITAs would be minor (see Section 4.4, Cultural Resources, for additional information).

Grazing, Hunting, and Gathering Resources

Under Alternative C, the mining operations would occur in a slightly different part of the Navajo Mine Lease Area, but would be comparable to those described under Alternative A.

Paleontological Resources

Under Alternative C, impacts to paleontological resources would be as described for Alternative A.

Four Corners Power Plant

Under Alternative C, the BIA would approve the lease amendment for the FCPP, and the FCPP would operate as described under Alternative A. All potential impacts to minerals, land, water, cultural resources, paleontological resources, and grazing, hunting, and gathering trust assets would be the same as described in Section 4.12.4.1.

Transmission Lines

Under Alternative C, existing transmission line ROW renewal would be approved as described under Alternative A. All potential impacts to minerals, land, water, cultural resources, paleontological resources, and grazing, hunting, and gathering trust assets would be the same as described in Section 4.12.4.1.

4.12.4.4 *Alternative D – Alternative Ash Disposal Area Configuration*

Navajo Mine

Under this alternative, OSMRE would approve the Pinabete SMCRA Permit application and renew the Navajo Mine SMCRA Permit Area. The Navajo Mine would operate as described under the Proposed Action. All potential impacts to minerals, land, water, cultural resources, paleontological resources, and grazing, hunting, and gathering trust assets would be the same as described for the Proposed Action.

Four Corners Power Plant

Under this alternative, BIA would approve the amended lease for the FCPP, and the plant would continue to operate as described under the Proposed Action. However, instead of constructing seven DFADAs, APS would construct a single “super cell” DFADA. Under this alternative, the area of disturbance required for the DFADAs would be 350 acres instead of 385 acres. The types of direct and indirect impacts on ITAs under this alternative would be the same as described for the Proposed Action, but would result in less potential impacts due to the 10 percent reduction in surface area of the DFADAs. Potential impacts to minerals, land, water, and grazing, hunting and gathering resources would be the same under this alternative as described under the Proposed Action. Due to the reduced disturbance area, there is less potential for unanticipated impacts to cultural and paleontological resources. All other FCPP components of this alternative are the same as for the Proposed Action. Therefore, impacts would be the same as described for the Proposed Action.

Transmission Lines

Under Alternative C, existing transmission line ROW renewal would be approved as described under Alternative A. All potential impacts to minerals, land, water, cultural resources, paleontological resources, and grazing, hunting, and gathering trust assets would be the same as described for the Proposed Action.

4.12.4.5 *Alternative E – No Action Alternative*

Navajo Mine

Minerals

Under the No Action Alternative, no coal would be mined after the ROD is issued in 2015. No associated adverse impacts would occur to the quantity or quality of mineral trust assets, but an adverse impact to the economic value of mineral trust assets would. Current royalties associated with the operation of the Navajo Mine would be eliminated.

Land

No adverse impacts to land trust assets would result from mine closure and reclamation under the No Action Alternative. No changes in land use would occur for the Pinabete SMCRA Permit Area. Upon permit expiration, the NTEC would conduct reclamation activities in Area III and Area IV North. All ancillary buildings and facilities would be removed, and the land would be reclaimed according to OSM guidelines. As reclamation would be required to return the land to equivalent or better state than pre-mining and land areas would no longer be restricted from public access, impacts to land trust assets would potentially be beneficial. The net impact to the value of land trust assets would depend on the value of other land uses after reclamation.

Water

Under the No Action Alternative, demolition activities associated with the Navajo Mine could result in short-term impacts to near-surface groundwater and surface water quality; however, potential impacts would be minimized through permit requirements and BMPs. Reclamation of mined lands would potentially restore natural groundwater flow, and surface water drainage and natural stormwater flow. Areas that had been previously mined or altered would be reclaimed in accordance with the Reclamation Plan; therefore, impacts to groundwater and surface water would be beneficial. In addition, reclamation of mined lands would potentially restore natural groundwater flow, resulting in potential benefits to Federally reserved waters held in trust. Thus, overall, impacts to trust water resources would be limited, but beneficial, under the No Action Alternative.

Cultural Resources

The closure of the Navajo Mine would have no effect on historic properties. MCo has already mitigated all sites in Area III and IV North. Under Alternative E, there would be no new land disturbance and consequently, reclamation activities would not impact new cultural resources.

Grazing, Hunting, and Gathering Resources

Following reclamation, any existing access restrictions would be removed, thereby increasing the availability and potential value of hunting and gathering resources to the tribe. Therefore, impacts to grazing, hunting, and gathering resources would be beneficial.

Paleontological Resources

The closure of the Navajo Mine would reduce the likelihood that paleontological resources would be damaged or destroyed. Therefore, there are no major impacts to paleontological resources as ITAs expected to occur as part of the No Action alternative, although there are two known paleontological resources occurring in the pre-2016 dragline areas which could be affected prior to mine closure (see Section 4.3). These sites would be protected and managed in accordance with the protocols of an inadvertent discoveries plan presented in Alternative A, which would mitigate any potentially major adverse impacts to these ITA resources.

Four Corners Power Plant

Minerals

Under the No Action Alternative, no additional coal would be mined after 2016. Impacts associated with mineral use and the FCPP would be indirect. Current royalties associated with the FCPP operation would be eliminated, but potential royalties would remain, including the FCPP's conversion to another type of energy producing plant.

Land

No adverse impacts to land trust assets would result under the No Action Alternative. Under the No Action Alternative, the FCPP would be decommissioned and the units, switchyards, and facilities may eventually be dismantled. The land would be reclaimed, which may render lands suitable and available for other uses, such as grazing or other agricultural purposes, although uncertain at this time. Land lease revenues from the FCPP would be eliminated. The net impact to the value of land trust assets would depend on the value of these other land uses, compared to the land lease revenues received from FCPP (adverse impacts to the value of the trust land would result if the leases are more valuable than rents from other land uses).

Water

Under the No Action Alternative, the FCPP would shut down and remain in place until such time that a decommissioning plan is approved and implemented. Under the No Action Alternative, APS would cease drawing water from the San Juan River to operate the plant and would also cease discharges into Morgan Lake. Water from Morgan Lake would remain in place until such time that it naturally evaporates. In addition, deposition of mercury, selenium, and other pollutants from the FCPP would cease. As a result, water quality in surface water bodies within the deposition area, particularly the San Juan River, would improve at least incrementally (see Section 4.5, Water Resources/Hydrology, for more information). This reduction in contaminant deposition would improve San Juan River water quality, with potential benefits to the quality of Federally reserved waters held in trust.

Cultural Resources

The decommissioning and dismantling of the FCPP could impact historic properties. OSMRE is consulting with the Navajo Nation THPO on determinations of Project impacts for unevaluated archaeological resources within the APE.

Grazing, Hunting, and Gathering Resources

Under the No Action Alternative, the FCPP would cease operations and any existing access restrictions would be removed. Unrestricted access would increase the availability and potential value of grazing, hunting, and gathering trust resources to the tribe. No adverse impacts to grazing, hunting, and gathering resources would result under the No Action Alternative.

Paleontological Resources

The closure of FCPP would not result in any ground-disturbing activities and therefore minimize the potential for the impairment of paleontological resources. Therefore, there are no major impacts to paleontological resources as ITAs expected to occur as part of the No Action alternative.

Transmission Lines

Minerals

Under the No Action Alternative, the transmission line ROWs would not be approved and the transmission lines would be decommissioned, dismantled, or left in place. These actions would not directly impact mineral trust assets, but could indirectly affect the value of the mineral trust assets by reducing the

feasibility of potential future use of the mineral assets if the transmission lines are decommissioned and dismantled. However, the potential value of the mineral trust assets would remain.

Land

The transmission lines would either be decommissioned and dismantled or left in place. Any subsequent impacts to trust assets would depend on the new land use. If the transmission lines were removed, all related actions would be addressed under their own set of permits and approvals.

Water

Under the No Action Alternative, the ROWs for the transmission lines would not be approved. The transmission lines may be decommissioned and dismantled or left in place. Dismantling of transmission lines has the potential to result in short-term impacts to surface water and groundwater quality; however, APS and PNM would be required to comply with all environmental laws and obtain necessary permits. Erosion from transmission line deconstruction and possible leaks from construction equipment could adversely impact water quality in the area (see Section 4.5, Water Resources/Hydrology, for more information).

If the transmission lines are left in place, little to no impacts to surface water quality and to trust assets would occur.

Cultural Resources

The decommissioning of the transmission lines could impact archaeological resources that are currently unevaluated for the NRHP and two archaeological resources that are determined eligible for the NRHP. OSMRE is consulting with THPO and SHPO on determinations of Project impacts for unevaluated archaeological resources within the APE.

Grazing, Hunting, and Gathering Resources

Under the No Action Alternative, the ROWs for the transmission lines would not be approved. The transmission lines may be decommissioned and dismantled or left in place. Little to no impacts would occur to grazing, hunting, and gathering resources held as trust assets from either decommissioning or dismantling the transmission lines.

Paleontological Resources

Under the No Action alternative, no new ground-disturbing activities would occur. There are no known paleontological resources within the transmission line ROWs due to prior disturbance, and therefore, little to no impacts would occur to paleontological resources from either decommissioning or dismantling the transmission lines.

4.12.5 Indian Trust Assets Mitigation Measures

The Project Applicants must comply with protective regulatory requirements including laws, ordinances, regulations, and standards that are enforceable by the responsible agency over that activity. These are described in the Regulatory Compliance Framework Section for each resource category. Where the environmental analysis in this EIS recommends additional protective measures, over and above the regulatory protections, they are listed below as specific mitigation measures.

The Proposed Action, including the continuing operations of Navajo Mine, FCPP, and the transmission lines, would not result in major adverse impacts to Indian Trust Assets. Therefore, no additional mitigation is recommended.